



United States Department of Agriculture
Natural Resources Conservation Service



New Jersey Fact Sheet: Forestry for Neotropical Migrants

What are Neotropical Migrants?

Neotropical migrants are a group of bird species that take advantage of seasonally available resources in different locations by migrating long distances every year. More than 360 species of raptors, songbirds, shorebirds, and waterfowl will overwinter in the New World Tropics (Central America, South America, Caribbean Islands), then migrate to their breeding grounds in temperate North America. In New Jersey, about 130 species will arrive in early spring and breed in forests, scrub-shrub meadows, grasslands, and wetlands only to return to the tropics in the fall. Many of these birds require specific habitat types in order to be successful, but fragmentation, habitat degradation, and changes in land use have greatly affected these populations.

How Does the Quality of Habitat Affect Migrants?

Traveling hundreds to thousands of miles annually demands significant energy from migrating birds. Healthy habitat with ample resources and space is necessary for the survival of these species. New Jersey offers a wide variety of breeding and stopover habitats, but many of these areas are now fragmented by development or degraded in quality. When migrants arrive at a breeding or stopover habitat, they are often lacking essential nutrients and fat reserves. A large and diverse habitat with plenty of native food sources, nesting opportunities, and shelter from predators can provide migrants with vital resources that help prepare the birds to continue their migration route or stop and breed. It is important to manage and restore these habitats in order to sustain healthy populations of these migrants.

Management Options

A landowner looking to enhance their property for neotropical migrants has several options that can be incorporated into a Forest Stewardship Plan. The first step in creating habitat is to assess how the subject property fits into the surrounding landscape. There are several characteristics that should take priority when developing a plan, including large patch sizes, riparian or wetland habitats, and vegetative structure. Some

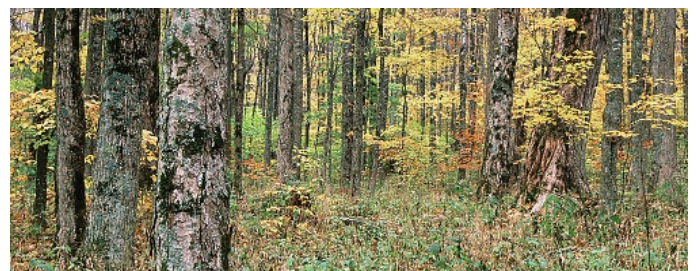


The scarlet tanager (top left), hooded warbler (top right) (©Kevin Karlson), broad-winged hawk (bottom left), and northern parula (bottom right) (NJA archives) are examples of neotropical migrants

important goals of a Forest Stewardship Plan should include:

- Preserving patches that are large in size (e.g. large grasslands, forests)
- Creating corridors between adjacent, smaller patches
- Preserving riparian or wetland habitat patches
- Promoting vertical vegetative structure and decreasing invasive plants that provide little nutritional value
- Decreasing the amount of hard edge habitat

Once the property has been assessed by a forester or natural resource professional and the main goals have been outlined, individual habitat types can be targeted and managed.



Deciduous forest habitat (NJA archives)



(From left to right) The ruby-throated hummingbird (©Steve Byland), prothonotary warbler (©Kevin Karlson), black-throated blue warbler (©Bill Dalton), and red-shouldered hawk (NJA archive) all migrate south during the winter months and return to New Jersey in the spring and summer

Forest Habitat

Forest habitats are crucial components for the survival of many neotropical migrants. Forest-dwelling species may rely on large forest patches for nesting, foraging, and shelter. A wide array of migrants, such as the magnolia warbler, northern parula, hermit thrush, and scarlet tanager, will benefit from proper forest management.

Several steps can be taken to improve these areas:

1. Connect smaller forest patches to create a larger, contiguous forest habitat (this may involve converting small grasslands into forests to create a wildlife corridor that connects two forested areas)
2. Incorporate Forest Stand Improvement (FSI) to enhance vegetative structure by using:
 - a. Selective felling or cutting to promote forest regeneration
 - b. Girdling methods to kill unwanted trees, but leave them standing
 - c. Herbicide application to control invasive, non-native, or competing vegetation; be sure to follow label directions and recommended practices
 - d. Prescribed burns when applicable
3. Leave snags or other trees standing that can be used for nesting, foraging, or shelter
4. Leave dead or downed trees to attract invertebrates which promotes healthy foraging
5. Incorporate Streamside Management Zones

(SMZ) for forested wetlands or riparian habitats (refer to New Jersey Division of Parks and Forestry's Best Management Practices (BMP))

6. Minimize the amount of hard edge habitat by creating a scrub-shrub buffer between forests and grasslands
7. Enhance vertical structure and manage for a variety of age classes and a large diversity of native plant species
8. Maintain habitat diversity by preserving smaller (<25 acres) forest patches that are forested wetlands, riparian buffers, or coastal or urban woodlots

A Forest Stewardship Plan will often present the best options, so it is important to consult an approved forester or natural resource professional for guidance on proper management techniques for each habitat type.

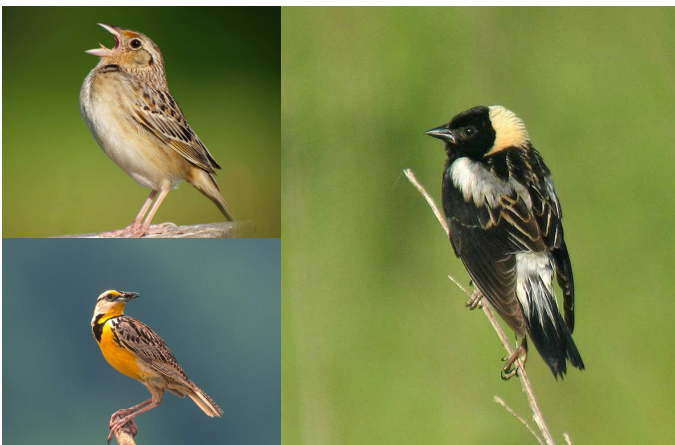
Grassland Habitat



Early successional native grassland (John Parke, NJA)

Grasslands have become increasingly rare throughout New Jersey, but they continue to provide crucial resources to many neotropical migrants. Numerous threatened and endangered species use grasslands, including the vesper sparrow, grasshopper sparrow, and bobolink. Several options are available to enhance grassland habitat:

1. Connect smaller grassland patches to create a larger, contiguous grassland habitat (this may involve converting small forests to grasslands)
2. Avoid fragmentation by limiting construction of roads, buildings, etc.
3. Plant native warm-season grasses and create high plant diversity
4. Periodically mow sections of vegetation at a height no shorter than 8 inches



Threatened and rare grassland birds include the grasshopper sparrow (top left, ©Joe Pescatore), eastern meadowlark (bottom left), and bobolink (right) (NJA archives)

5. Avoid mowing grasslands when many species are nesting, typically between April 1 through July 15, but after mid to late August is preferable
6. Use light livestock grazing when applicable
7. Apply herbicide to control invasive, non-native, or competing vegetation; be sure to follow label directions and recommended practices
8. When applicable, use prescribed burns to maintain grassland habitat

When planting warm season grasses, some routine maintenance is required, particularly for the first few years until the grassland is established. After this, the grassland will require occasional maintenance and will provide excellent habitat for many wildlife species. Prescribed fire requires specialized training as well as a permit from the New Jersey Forest Fire Service. A natural resource professional can advise landowners on these and other issues related to habitat creation and maintenance.

Scrub-Shrub Habitat



Scrub-shrub meadow (John Parke, NJA)

Scrub-shrub meadows provide valuable resources to a variety of different birds, including the white-eyed vireo and prairie warbler. There are many opportunities to create or manage scrub-shrub habitat, so it is important to consult a natural resource professional for guidance. In some instances, this habitat can be created as a buffer zone between forests and grasslands, which decreases the abundance of natural predators and brood parasites, like the brown-headed cowbird. There are several options to enhance scrub-shrub meadows:

1. Use selective cutting and felling while leaving shrubs and small trees in place
2. Apply herbicide to control invasive, non-native, or competing vegetation, be sure to follow label directions and recommended practices
3. Periodic maintenance is required every few years to complete supplemental felling or herbicide application

Management within scrub-shrub habitat that is continually or seasonally wet should take additional precautions to protect the integrity of all water sources. A natural resource professional can assist with developing a management plan.

Wetland Habitat



Emergent wetland habitat (Kristen Meistrell, NJA)

Wetland and riparian habitats may arguably be the most important habitat type for neotropical migrants. These areas not only provide a source of water, but also a significant amount of forage and shelter. Species such as the belted kingfisher and marsh wren benefit greatly from healthy wetland habitats. Several management options are available to help restore and manage wetlands:

1. Create buffer zones around wetland and riparian habitats. Incorporate Streamside Management Zones (SMZ) for forested wetlands or riparian habitats; refer to New Jersey Division of Parks and Forestry's Best Management Practices (BMPs)
2. Harvest and fell trees away from the wetland area
3. Protect trees and shrubs that create bank stability and shade the water to regulate water temperature
4. Manage for native plants that can tolerate wet conditions (e.g. red maple, pin oak, white ash)
5. Avoid the use of heavy machinery and road construction in these buffered zones
6. Avoid clearing or mowing sections along the wetland edge to preserve bank stability
7. Apply spot treatments of wetland approved herbicides to invasive, non-native or competing vegetation; be sure to follow label directions and use recommended practices

Invasive *Phragmites australis* (common reed) is a frequent problem in freshwater wetlands. A small amount of *Phragmites* can be beneficial; however, large tracts should be managed and controlled. For areas with little plant diversity, a broadcast herbicide spray can be applied to the plants. This will reduce *Phragmites* cover and allow for more plant diversity. In areas that contain both *Phragmites* and native plants, spot herbicide treatments can be applied to individual shoots to lessen the impact to non-target species. Periodic maintenance is required to continue control until native plant communities are established. Similar strategies can be used to address dense growth of cattails (*Typha spp.*) and other invasive wetland plants when more diversity is desired.

Other Habitat Enhancements

Another management option that is viable for many habitat types includes tree and shrub establishment. It is important to select species that can tolerate the site conditions as well as species that can benefit birds and other wildlife species. Some beneficial native plants include eastern red cedar, pitch pine, American holly, beach plum, yellow birch, high bush blueberry, and Virginia creeper. Attracting a particular wildlife species may require establishing special habitat features (such as nest boxes or tree cavities for nesting). A natural resource professional can advise landowners on these and other issues related to habitat creation and maintenance.

Financial and Technical Assistance

A Forest Stewardship Plan that incorporates some of the concepts listed above can promote a healthy ecosystem that is beneficial to neotropical migrants and other wildlife. An approved forester or natural resource professional can assist with the development and implementation of the plan, however; the landowner is generally responsible for all costs and applicable fees.

The Natural Resources Conservation Service (NRCS) offers technical and financial assistance to forest landowners through the Environmental Quality Incentives Program (EQIP). Eligible landowners with 10 acres or more of forest land may receive cost-share assistance for the development of a Forest Stewardship Plan, or for implementation of practices such as tree and shrub establishment, riparian and wetland buffer establishment, and forest stand improvement. Forest Stewardship Plans cost-shared through EQIP must be prepared by an NRCS approved Technical Service Provider (TSP). A list of TSPs can be found at a local NRCS service center or on the NJ NRCS website.

NRCS office locations and more detailed information about NRCS assistance and the EQIP program can be found at: www.nj.nrcs.usda.gov/



This forest in Cape May is being managed for neotropical migrants by removing highly invasive plants and promoting native regeneration (Suzanne Treyger, NJA)



The American kestrel, threatened in New Jersey, requires large tracts of early successional habitat (NJA archives)

For More Information:

General Information on NRCS Forestry Programs
www.nj.nrcs.usda.gov/technical/forestry/index.html

Information on NRCS EQIP Program
www.nj.nrcs.usda.gov/programs/eqip/forestry.html

Locating an NRCS TSP
<http://techreg.usda.gov/CustLocateTSP.aspx>

NRCS Conservation Practice Standard-Forest Stand Improvement
<http://efotg.sc.egov.usda.gov/references/public/NJ/NJ666.pdf>

NRCS Conservation Practice Standard-Riparian Forest Buffer
<http://efotg.sc.egov.usda.gov/references/public/NJ/NJ391-9-10-v2.pdf>

NRCS Conservation Practice Standard-Conservation Cover
<http://efotg.sc.egov.usda.gov/references/public/NJ/NJ327.pdf>

General Information on Neotropical Migrants
http://www.nj.gov/dep/fgw/ensp/neomigrant_info.htm

List of NJDEP-Approved Consulting Foresters
www.state.nj.us/dep/parksandforests/forest/ACF.pdf

NJ Forestry and Wetlands Best Management Practices Manual www.state.nj.us/dep/parksandforests/forest/nj_bmp_manual1995.pdf

Field, Farm, and Forest Guide, Conservation Department-South Region (2011) New Jersey Audubon. To request, call (609) 861-1608 ext. 29

Managing Stopover Habitat for Migratory Land Birds, J.P. Tash, E. Stiles, L. Widgeskog. (1999) New Jersey Division of Fish and Wildlife, Endangered and Nongame Species Program
http://www.nj.gov/dep/fgw/ensp/pdf/literature/managing_stopover_habitat_mig_birds.pdf

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